REMARKS

Claims 1-23 will be pending upon entry of the present amendment. Claims 1, 9, 11 and 18-23 have been amended. No new matter has been added to the application.

The Director is authorized to charge any additional fees due by way of this Amendment, or credit any overpayment, to our Deposit Account No. 19-1090.

Objections

Claim 19 was objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim.

Claim 19 has been amended to depend from claim 11. Thus, amended claim 19 further limits the subject matter of claim 11. Consequently, applicants believe that such amendment allows for the objection to be removed.

Rejections Under 35 U.S.C. § 102(b)

Claims 1, 8 and 20 were rejected under 35 U.S.C. § 102(b) as being anticipated by Hartmann et al. U.S. Patent No. 4,823,626 (hereinafter "Hartmann").

One embodiment is directed to a device for automatic detection of states of motion and rest. The device may include at least one inertial sensor to sense motion of the device along a first preferential detection axis. A converter may be coupled to the inertial sensor and may supply a first signal correlated to forces acting on the device according to the preferential detection axis. The device may further include a first processing stage to process the first signal and supply a second signal correlated to a dynamic component of the first signal. At least one threshold comparator may supply an activation pulse in response to the second signal exceeding a first threshold.

Hartmann is directed to an inertial sensor that includes two electrically restrained gyros 10, 12 with three mutually orthogonal input axes. The inertial sensor arrangement of Hartmann, appears to sense a position change using a pick-off 144, and in response, produce a restraining signal that restrains the corresponding gyro 10, 12 to prevent the gyro 10, 12 from spinning. *See e.g.*, Paragraph beginning at col. 4, line 37.

Hartmann does not disclose the invention recited in claim 1. Claim 1 recites, *inter alia*, "A device for automatic detection of states of motion and rest, comprising...a first threshold comparator supplying a pulse when said second signal exceeds a determined threshold."

Hartmann does not disclose any comparator, let alone the first threshold comparator of claim 1. As is well known in the art, a comparator is a circuit that has at least two inputs and produces an output based on a comparison of the inputs (See "comparator" definition on attached page 99 of Microsoft Computer Dictionary). Hartmann simply does not show any such comparator. Instead, the pick-off 144 of Hartmann appears to merely be a sensor that produces a signal based on physical movement of Hartmann's device rather than on two or more inputs.

The applicants disagree with the Examiner's contention on page 3 of the Office Action that Hartmann inherently discloses a first threshold comparator by describing "a signal generated by movement." The applicants respectfully submit that such a contention confuses a method step with the structural limitations of claim 1. The fact that the pick-off 144 produces a pick-off signal when it detects non-zero movement does not turn the pick-off 144 into a comparator. As discussed above, a comparator compares at least two inputs to produce an output and the pick-off 144 of Hartmann simply does not have two inputs and does not compare two inputs to produce an output. Moreover, there is no reason that Hartmann's device would inherently have a comparator positioned between the pick-off 144 and the remainder of the device. Hartmann simply produces a restraining signal in response to the pick-off signal from the pick-off 144 without ever comparing the pick-off signal to any other input.

Even if Hartmann had included a comparator to detect non-zero movement, such a comparator still would not satisfy the language of claim 1 which recites that the first threshold comparator supplies a pulse when <u>said second signal</u> exceeds a determined threshold. The Examiner implies that the restraining signal is the second signal, but the restraining signal is never compared to a threshold. Hartmann simply does not state or imply that there is or could be a comparator positioned downstream of the computer 60 which produces the restraining signal based on the pick-off signal from the pick-off 144.

Thus, Hartmann does not anticipate the device of claim 1. Consequently, claim 1 is allowable as is claim 8, which depends therefrom.

Although the language of claim 20 is not identical to that of claim 1, the allowability of claim 20 will be apparent in view of the above discussion.

Rejections Under 35 U.S.C. § 103

(I) Hartmann and Ishiyama

Claims 2, 11-13, 17, 21 and 23 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Hartmann in view of Ishiyama U.S. Patent No. 6,738,214 (hereinafter "Ishiyama").

Hartmann and Ishiyama do not teach or suggest the invention recited in claim 2, which depends on claim 1. In particular, Ishiyama does not teach or suggest the elements of claim 1 that are missing from Hartmann. Like Hartmann, Ishiyama does not disclose any comparator, let alone the first threshold comparator recited in claim 1. Even if some threshold comparison were implied to detect non-zero movements, such a threshold comparison does not suggest a comparator that compares a second signal, correlated to a dynamic component of a first signal, to a threshold.

Hartmann and Ishiyama also fail to teach or suggest the elements recited in claim 2. Claim 2 recites, *inter alia*, "wherein said first processing stage comprises a filter, supplying a third signal correlated to a static component of said first signal, and a subtractor element, for subtracting said third signal from said first signal." (Emphasis added.)

Hartmann and Ishiyama fail to teach or suggest such a subtractor element. Page 4 of the Office Action admits that Hartmann fails to teach a subtractor element, but asserts that Ishiyama inherently includes one. In particular, the Office Action states that Ishiyama utilizes a high-pass filter to extract dynamic acceleration and a low-pass filter to extract static acceleration components. The Office Action contends that the output of the high-pass filter is *functionally* equivalent to subtracting the output of the low-pass filter from the original signal. As such, the Office Action further contends that Ishiyama's high-pass filter is equivalent to the filter and subtractor element of claim 2.

Ishiyama certainly does not inherently disclose the subtractor element recited in claim 1. Indeed, the fact that Ishiyama uses a high-pass filter conclusively proves that the recited

low-pass filter and subtractor are not inherent. Nothing in Ishiyama or anywhere in the prior art requires such a low-pass filter and subtractor element to be used instead of, or in addition to, the high-pass filter of Ishiyama, and thus, the subtractor is not inherent.

The applicants respectfully submit that the Examiner is mistakenly asserting that it would be obvious to replace the high-pass filter of Ishiyama with the low-pass filter and subtractor of claim 2 based only on the alleged equivalence of the output signals. First, nothing in Hartmann and Ishiyama suggests that one skilled in the art would know that the low-pass filter and subtractor combination could or should be used in place of Ishiyama's high-pass filter. In addition, the cited prior art does not provide any reason why one skilled in the art would be motivated to replace the high-pass filter with a low-pas filter and subtractor. Furthermore, the Office Action does not cite any reference showing a combination of a low-pass filter and subtractor.

Thus, the combination of Hartmann and Ishiyama fails to teach the invention of claim 2.

Although the language of claim 21 is not identical to that of claim 2, the allowability of claim 21 will be apparent in view of the above discussion.

Claim 11 recites, *inter alia*, "deactivation means connected to said user devices for setting said user devices in said second operative state (in which the user devices are disconnected from a supply source); and...activation means for setting the user devices in the first operative state, said <u>activation means including</u>: a first inertial sensor having a preferential detection axis, a converter coupled to said first inertial sensor and supplying a first signal correlated to forces acting on said first inertial sensor according to said preferential detection axis, a first processing stage structured to process said first signal and supply a second signal correlated to a dynamic component of said first signal, and <u>a first threshold comparator supplying an activation pulse when said second signal exceeds a determined threshold</u>." (Emphasis Added.)

Hartmann and Ishiyama fail to teach or suggest the invention of claim 11. First, Hartman and Ishiyama do not teach or suggest the deactivating means for setting the user devices in a second operative state in which the user devices are disconnected from a supply source. The Examiner asserts that Ishiyama discloses such deactivation means by teaching that the magnetic

heads 14 of a hard disk drive are retracted in response to a shock received by the device (col. 7, lines 29-35). However, such retraction of the magnetic heads does not involve any disconnection of any user devices from a supply source. Instead, a supply source would certainly be needed to retract the heads 14, and nothing in Ishiyama suggest that the heads would or could remain retracted in absence of power from the supply source. In addition, the heads 14 are automatically moved back into position when the shock is removed, which suggests that all of the sensor circuit remain connected to the supply source.

Second, Ishiyama and Hartman do not teach or suggest the activation means recited in claim 11. The Examiner admits that Hartmann "fails to explicitly disclose activation means that in the presence of the activation pulse activates from a stand-by condition, but contends that Ishiyama *inherently* discloses the activation means of claim 11 because the device would inherently be activated after being deactivated. That is not correct because, as discussed above, Ishiyama does not include deactivating means for disconnecting user devices from a supply source, so nothing inherently requires such activating means for connecting the user devices to the supply source.

Third, even if Ishiyama inherently included such activation means, nothing in Hartmann or Ishiyama suggests incorporating the inertial sensor device of Hartmann in such activation means. Hartmann's device restrains gyros in response to detecting movement. Ishiyama teaches retracting the magnetic heads 14 in response to detecting movement. Thus, at best, one skilled in the art would be motivated to use Hartmann's device to retract the magnetic heads 14 of Ishiyama rather than connecting user devices to a supply source as recited in claim 11.

For the foregoing reasons, claim 11 is nonobvious in view of Hartmann and Ishiyama. Claims 12, 13, and 17 depend on claim 11, and thus are also nonobvious. In addition, although the language of claim 13 is not identical to that of claim 2, the allowability of claim 13 will also be apparent in view of the above discussion of claim 2.

Claim 23 recites, *inter alia*, "receiving the activation pulse at an operation circuit of the device, the operation circuit being in a stand-by condition prior to receiving the activation pulse...activating the operation circuit into an active condition in response to receiving the activation pulse." (Emphasis added.)

Although the language of claim 23 is not identical to that of claim 11, the allowability of claim 23 will be apparent in view of the above discussion.

(II) Hartmann, Ishiyama, and Oguchi

Claims 3 and 14-16 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Hartmann in view of Ishiyama, as applied to claims 1 and 11, and further in view of Oguchi U.S. Patent Publication No. 2002/0033047 (hereinafter "Oguchi").

Hartmann, Ishiyama, and Oguchi do not teach or suggest the invention recited in claim 3, which depends on claim 1. In particular, Oguchi fails to teach or suggest the features of claim 1 that are missing from Hartman and Ishiyama. More specifically, Oguchi does not teach or suggest the first threshold comparator of claim 1. The Office Action has cited Oguchi only for teaching "a micro-electro-mechanical sensor with capacitive unbalancing," and thus, it seems unnecessary to further discuss the lack of a threshold comparator in Oguchi. Thus, claim 3 is nonobvious in view of the cited prior art.

Hartmann, Ishiyama, and Oguchi do not teach or suggest the invention recited in claims 14-16, which depend on claim 11. In particular, Oguchi fails to teach or suggest the features of claim 11 that are missing from Hartman and Ishiyama. In particular, Oguchi does not teach or suggest the activation means and deactivation means of claim 11. Instead, the Office Action has cited Oguchi only for teaching "a micro-electro-mechanical sensor with capacitive unbalancing." Such capacitive unbalancing is unrelated to the missing teachings of Hartmann and Ishiyama. As such, Hartmann, Ishiyama and Oguchi, fail to teach the invention of claims 14-16.

(III) Hartmann and Oguchi

Claims 4-7 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Hartmann in view of Oguchi.

As discussed above, Hartmann and Oguchi fail to teach or suggest the invention of claim 1. Thus, claims 4-7, which depend from claim 1, are also nonobvious in view of Hartmann and Oguchi.

(IV) Hartmann and Jeenicke

Claims 9, 10, 19 and 22 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Hartmann in view of Jeenicke U.S. Patent No. 5,788,273 (hereinafter "Jeenicke").

Hartmann and Jeenicke do not teach or suggest the invention of claims 9-10, which depend on claim 1. In particular, Jeenicke fails to teach or suggest the features of claim 1 that are missing from Hartman. More specifically, Jeenicke does not teach or suggest the first threshold comparator of claim 1. Like Hartman, Jeenick does not mention any comparator, let alone the threshold comparator of claim 1.

Claim 9 further recites, *inter alia*, "a <u>multiplexer</u> connected between the inertial sensors and the converter to selectively electrically connect each of the inertial sensors to the converter, the converter supplying a third signal correlated to forces acting on said second inertial sensor according to said second preferential detection axis...a <u>demultiplexer</u> connected between the converter and the first and second processing stages to selectively supply the first and third signals to the first and second processing stages, respectively." (Emphasis Added.)

Hartmann and Jeenicke fail to teach or suggest the multiplexer and demultiplexer of claim 9. The applicants respectfully note that the Office Action fails to address where, if any, teachings of a multiplexer and a demultiplexer as recited in claim 9, are taught in the references. Therefore, claim 9 is nonobvious in view of the cited prior art.

Hartmann and Jeenicke also fail to teach or suggest the invention of claim 19, which depends on claim 11. As discussed above, Hartmann does not teach or suggest the invention of claim 11. In particular, page 4 of the Office Action states that Hartmann "fails to explicitly disclose a deactivation means and activation means that in the presence of the activation pulse activates from a stand-by condition."

Jeenicke fails to cure the deficiencies of Hartmann. The Office Action contends that Jeenicke discloses the second processing stage and the second threshold comparator of claim 19. Such is clearly not equivalent to the activation and deactivation means of claim 11. Thus, claim 19 is allowable over Hartmann and Jeenicke.

Although the language of claim 22 is not identical to that of claims 9-10, the allowability of claim 22 will be apparent in view of the above discussion.

(V) Hartmann, Ishiyama, and Jeenicke

Claim 18 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over Hartmann in view of Ishiyama, as applied to claim 11, and further in view of Jeenicke.

Hartmann, Ishiyama, and Jeenicke do not teach or suggest the invention of claim 18, which depends on claim 11. As discussed above, Jeenicke does not teach or suggest the activation and deactivation means of claim 11 that are missing from Hartmann and Jeenicke. Accordingly, claim 18 is nonobvious in view of Hartmann, Ishiyama, and Jeenicke.

Claim 18 also recites, *inter alia*, "a multiplexer connected between the inertial sensors and the converter to selectively electrically connect each of the inertial sensors to the converter, the converter supplying a third signal correlated to forces acting on said second inertial sensor according to said second preferential detection axis...a demultiplexer connected between the converter and the first and second processing stages to selectively supply the first and third signals to the first and second processing stages, respectively." (Emphasis Added.)

Although the language of claim 18 is not identical to that of claims 8-9, the allowability of claim 18 will be apparent in view of the above discussion of claims 8-9.

Conclusion

Overall, the cited references do not singly, or in any motivated combination, teach or suggest the claimed features of the embodiments recited in independent claims 1, 11 and 20, and thus such claims are allowable. Because the remaining claims depend from the allowable independent claims, and also because they include additional limitations, such claims are likewise allowable. If the undersigned agent has overlooked a relevant teaching in any of the references, the Examiner is requested to point out specifically where such teaching may be found.

In light of the above amendments and remarks, Applicants respectfully submit that all pending claims are allowable. Applicants, therefore, respectfully request that the Examiner reconsider this application and timely allow all pending claims. Examiner Bukowczyk is encouraged to contact Mr. Stern by telephone to discuss the above and any other distinctions between the claims and the applied references, if desired. If the Examiner notes any

informalities in the claims, he is encouraged to contact Mr. Stern by telephone to expediently correct such informalities.

Respectfully submitted,

SEED Intellectual Property Law Group PLLC

Ronald Stern
Registration No. 59,705

RS:vsj

Enclosure:
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directly connected (hardwired) to the computer. *Acronym:* CTERM (C´tėrm).

community antenna television *n. See* CATV.

compact disc *n.* **1.** An optical storage medium for digital data, usually audio. A compact disc is a nonmagnetic, polished metal disc with a protective plastic coating that can hold up to 74 minutes of high-fidelity recorded sound. The disk is read by an optical scanning mechanism that uses a high-intensity light source, such as a laser, and mirrors. *Also called* optical disc. **2.** A technology that forms the basis of media such as CD-ROM, CD-ROM/XA, CD-I, CD-R, DVI, and PhotoCD. These media are all compact disc–based but store various types of digital information and have different read/write capabilities. Documentation for compact disc formats can be found in books designated by the color of their covers. For example, documentation for audio compact discs is found in the Red Book. *See also* CD-I, CD-R, CD-ROM, CD-ROM/XA, DVI, Green Book (definition 2), Orange Book (definition 2), PhotoCD, Red Book (definition 2). **3.** *See* CD.

compact disc–erasable *n. See* CD-E.

compact disc–interactive *n. See* CD-I.

compact disc player *n. See* CD player.

compact disc–recordable *n. See* CD-R.

compact disc–recordable and erasable *adj.* See CD-R/E.

compact disc–rewritable *n. See* CD-RW.

CompactFlash *n.* Plug-in memory devices designed by the CompactFlash Association for use in digital cameras and, eventually, other devices for storing and transporting digital data, sound, images, and video. CompactFlash devices are small cards 1.7 x 1.4 x 0.13 inches (43 x 36 x 3.3 mm) in size. They are based on nonvolatile flash technology, and so do not rely on batteries or other power to retain information. *See also* digital camera.

CompactFlash Association *n.* A nonprofit association that developed and promotes the CompactFlash specification. Founded in October 1995, it has a membership that includes 3COM, Eastman Kodak Company, Hewlett-Packard, IBM, and NEC, among other corporations. *See also* CompactFlash.

compaction *n.* The process of gathering and packing the currently allocated regions of memory or auxiliary storage into as small a space as possible, so as to create as much continuous free space as possible. *Compare* dispersion, file fragmentation (definition 1).

compact model *n.* A memory model of the Intel 80x86 processor family. The compact model allows only 64 kilobytes (KB) for the code of a program but up to 1 megabyte (MB) for the program's data. *See also* memory model.

CompactPCI *n.* An open bus specification for industrial computing needs developed by the PCI Industrial Computer Manufacturers Group (PICMG). CompactPCI is based on the desktop-computing PCI bus but differs in a number of respects, including a pin-and-socket connector and a design that allows for front loading and removal of cards. CompactPCI is intended for applications such as industrial automation, military systems, and real-time data acquisition. It is suitable for high-speed communications devices, such as routers, and allows for hot-plugging. *See also* hot plugging, PCI local bus.

comparator *n.* A device for comparing two items to determine whether they are equal. In electronics, for example, a comparator is a circuit that compares two input voltages and indicates which is higher.

compare *vb.* To check two items, such as words, files, or numeric values, so as to determine whether they are the same or different. In a program, the outcome of a compare operation often determines which of two or more actions is taken next.

compatibility *n.* **1.** The degree to which a computer, an attached device, a data file, or a program can work with or understand the same commands, formats, or language as another. True compatibility means that any operational differences are invisible to people and programs alike. **2.** The extent to which two machines can work in harmony. Compatibility (or the lack thereof) between two machines indicates whether, and to what degree, the computers can communicate, share data, or run the same programs. For example, an Apple Macintosh and an IBM PC are generally incompatible because they cannot communicate freely or share data without the aid of hardware and/or software that functions as an intermediary or a converter. **3.** The extent to which a piece of hardware conforms to an accepted standard (for example, IBM-compatible or Hayes-compatible). In this sense, compatibility means that the hardware ideally operates in all respects like the standard on which it is based. **4.** In reference to software, harmony on a task-oriented level among computers and

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